SUMMARY OF COMMENTS AND CHANGES

TO

Field Operations Plan - Cherokee County Test Addendum

June 5, 1989

by

Adrian Brown Consultants, Inc.

June 8, 1989

by

U S EPA and CH2M HILL

INTRODUCTION

This document summarizes the contents of a telephone conversation on June 7, 1989 between the U.S. Environmental Protection Agency (Glenn Curtis), CH2M HILL (Bill Bluck, Neil Geitner, and Dick Glanzman), and Adrian Brown Consultants (ABC, Mark Logsdon) concerning the technical contents and certain statements contained in the above noted test addendum that provides the technical guidance for certain tests being conducted by a group of the Cherokee County PRPs and their technical consultant, Adrian Brown Consultants, Inc. The comments and questions were in response to a review outlined in the general agreement between the PRP group and the EPA that stipulate that EPA needs to agree to the technical content of the field procedures being performed by the PRP group.

This document provides the agreed-to changes to the PRP work plan and field operations plan. Comments are summarized by section, page, and paragraph in the base document. This document is a supplement and not a replacement to the June 5, 1989 document submitted by ABC to the EPA for review.

COMMENTS AND CHANGES

Transmittal Letter

No comments.

1.0 Introduction

Page 1

The EPA review and approval element for the document is provided by this supplement. Mark Logsdon stated that the document had been reviewed and approved by the participating PRPs.

2.0 Test Objectives

Page 2
Paragraph 1

The intent of the testing being performed is clarified to be for the purposes of validation of the single remedy being tested. The sentence regarding determination of optimal practical size distribution is stricken.

Paragraph 2

The phrases following "model remedy" are stricken.

Paragraph 3

For the second sentence the word "ground" will be inserted in front of "water". The experiments being undertaken are focused on the ground water system and the interactions between the ground water and the wastes.
Page 3

Figure 1 will be revised at a later date to reflect the pond numbering and the location of the test apparatus.

Section 3

Paragraph 1

The water imported to the test site will be tested at the time of collection and after the 8 hour holding period. The tests will be performed with the Martek Mark XVII probe. All parameters measured by the Martek will be reported.

Paragraph 2

The sentences following the second sentence are omitted.

ABC agrees that mixing of the chat and coarser-sized mine waste is needed for the testing procedure due to the relatively large size of the materials being tested in relation to the size of the test apparatus. EPA confirmed that mixing of the materials for the pilot testing is not a commitment by the PRPs to conduct field scale mixing prior to placement of materials in voids during a remedy.

Section 3.1

Pages 4 and 5

Paragraph 1

ABC will provide quantitative information at a later date regarding the amounts of chat and waste rock in Area 5. ABC will also clarify the term "poor" quality water by reference to the table that follows the paragraph

The PRPs subsequently transmitted the Attachment 1, which was omitted from the original transmittal

The analytical parameters reported are all the information that are available currently ABC will forward the complete suite of analytical parameters when they become available from the local laboratory The confirming CLP quality data will also be included when it becomes available (anticipated six week turnaround).

The analytical procedures used for all the tests are as specified in the QAPP and the previously submitted work plan. These procedures will be followed throughout the test program

Section 3.2

Page 5

Paragraph 1

The word "test" will be substituted for "standard" in the first sentence and in the section title.

The condition of the drums had not been determined at the time of the telephone call. ABC will examine the drums to be sure that they are free of rust and suitable for the testing procedure.

EPA/CH2M HILL accepted the use of mild steel for all test vessels.

ABC clarified that one barrel will be used for each batch test.

Section 3.2.2

Page 6

ABC agreed to conduct the full range of batch tests (Tests 1 through 12) with mixed rock and chat (where appropriate). ABC will conduct independently batch tests on layered rock and chat mixing at their discretion. The rolling and agitation of the batch tests should accomplish some mixing for all the batch tests.

ABC is using calcareous wastes from Area 5 in conjunction with the water from Pond 524 due to the lack of access to use the calcareous materials from around the Blue Hole.

The 2:1 water-to-rock volume ratio is based on an ASTM test procedure The EPA and CH2M HILL agreed to use the 2:1 ratio.

ABC acknowledged that air entrainment can only be minimized and not avoided entirely.

Second Bullet--Waterproof putty will be used only if the drums do not seal adequately.

Section 3.3.1

Page 8

The piezometers identified in the text will be located on the structural support members shown in Figure 2 (2) and adjacent to the PVC inlet and exit pipes.

Section 3.3.2

Page 8

The flow-through test tanks will be filled to the top with waste rock and chat mixture. The water level will be maintained near the top of the tank.

The flow-through tanks will be drained after the initial larger scale batch tests. Samples will be taken at the beginning of the draining, the mid point of the draining, and near the end of the draining cycle.

Sixth bullet--The flow rate will be maintained at 2 gpm for each of the three flow-through tests.

Page 10

The equilibrium point for the flow-through tests will be determined when the field measured parameters have reached a reasonable equilibrium point. It is believed that this point will be at about the 10 pore volume point.

Second bullet--The rain water test will commence following the identification of the equilibrium point identified as stated above. The rain water test will continue for 10 pore volumes of fluid or until equilibrium is identified as above. Following the identification of equilibrium during the rain water test the source water will be returned to the pond water and another equilibrium point determined, again based on 10 pore volumes.

Report

ABC anticipates completing the draft report by the end of June 1989. Field results will be available immediately. The results from the local laboratory are anticipated to be included in the draft as 5-day turnaround has been requested. CLP results will likely be issued in an addendum to the report.

END